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National Cooperative Dairy Herd Improvement Program



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AGRICULTURAL RESEARCH SERVICE, U. S. DEPARTMENT OF AGRICULTURE

Dairy-Herd-Improvement Letter

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DHIA COWS AVERAGE 11,286 POUNDS OF MILK

In 1962-63, 47.3 DHIA cows per herd produced 11,286 pounds of milk and 434 pounds of butterfat on a cow-year average basis. This represents an increase of 0.6 of a cow per herd, 254 pounds of milk and 8 pounds of butterfat per cow over 1961-62.

The importance of DHIA recordkeeping continues to be increasingly evident. In 1962, DHIA cows were 60 percent superior in milk yield to non-DHIA cows and in the amount of 4,136 pounds. Since 1930, DHIA cows have increased in production by 3,390 pounds of milk (106 pounds per year) as compared to only 2,461 pounds (77 pounds per year) for non-DHIA cows. This rate of improvement has been 38 percent more rapid among DHIA cows than among non-DHIA cows. These trends are evident even though the slow but steady growth of DHIA has resulted in a more widespread participation and hence a less selective program in recent years. Production averages of DHIA and non-DHIA cows are shown in Table 1.

While such statistics as these provide no assurance that enrollment in DHIA will automatically result in dramatic production increases, such statistics provide a helpful tool for encouraging more dairymen to participate in DHIA and related recordkeeping programs.

Issued November 1963

DHIA HERD SUMMARIES, 1962-63

Summaries of DHIA statistics for 1962-63 are shown in Tables 2 through 8. Table 2 gives the cow-year average production of DHIA cows by State, including cows for which only milk and fat production were reported or used. Other State and national production averages were derived from 935,149 cows in the 22,653 herds from which complete herd data were reported and are on a cow-year basis in Table 3 and on a herd basis in Tables 4 through 6.

A summary of the cow-year averages by State is shown in Table 3. The value for income over feed cost for each State was derived by subtracting average feed cost from average value of product.

Level of feeding, other than concentrates, feeding index, and rate of forage feeding were not included in any tables because values for succulent and dry forage quantity were reported by several States in tons rather than in hundredweights. Feed costs, however, were considered to be reliable estimates.

Averages for number of workers, milk per worker, and income over feed cost per worker were not included since barn and field labor were not adequately differentiated in the reports.

Regional differences, especially as associated with fluctuating milk prices, feeding regimes, costs, and breed distribution, create serious problems in interpreting production and efficiency summaries such as these. This is especially true for income over feed cost estimates which vary with value of product and feed cost and thus tend to be regionally influenced. The influence of breed of herd is also an important factor to be considered when evaluating profitable levels of production. If all breeds were combined, for example, in stratifications according to herd average milk yield, herds averaging 7,000 pounds of milk would consist largely of Guernseys and Jerseys, and would represent milk prices and feed costs averaging \$5.04/cwt and \$161, respectively. The corresponding values for herds averaging 14,000 pounds of milk would be \$4.21 and \$271. Therefore, in stratifications involving milk yield, breeds were not combined as in the past and are listed separately in Tables 7 and 8.

In 1962-63, DHIA cows were, on the average, in milk 84 percent of the year, fed 3,900 pounds of concentrates and produced a product valued at \$495 from feed costing \$218 while realizing an estimated income over feed cost of \$277. The corresponding values from 1961-62 were 84 percent, 3,600 pounds, \$502, \$207, and \$295.

The more recent value of product estimate of \$495 per cow in DHIA corresponds to an average milk price of \$4.53/cwt. The all-U. S. average milk price in 1962 was \$4.54/cwt for fluid milk and \$4.11/cwt for all milk. During the past two years in DHIA, value of product has decreased approximately \$7.00 per cow; estimated feed cost has increased \$11.00 per cow. This trend, which is also shown by data from the USDA Statistical Reporting Service, continues to emphasize the need for more efficient dairy operations.

Summaries based on stratifications by fat level, concentrate level, and herd size are shown in Tables 4 through 6. Increased levels of concentrate feeding appeared to be associated with increases in production, feed cost, and income over feed cost. It should be recognized, however, that these increases in production and estimated income over feed cost probably are not solely attributed to level of concentrate feeding.

Feed cost, value of product, and income over feed cost values were not included in the results shown in Table 6 since they appeared to be confounded by the differences in markets involved in each herd size level.

Stratifications involving herd average milk yield by breed are shown in Tables 7 and 8. The mixed breed group shown in Table 7 represents 1,789 herds reported as consisting of either more than one breed or uncertain breed identity. As indicated previously, breeds were tabulated separately in order to minimize the complicating effects of milk prices and feed costs as related to breed in addition to breed differences in milk yield. Such tabulations should be most effective in establishing guidelines for production efficiency within breed rather than between breeds. On the basis of the long established thumb rule that profitable production can be realized only if income more than doubles feed cost, milk production levels below which profit will not be realized under average U. S. conditions are estimated as follows:

<u>Breed</u>	<u>Minimum Milk Level at which Income at Least Doubles Feed Cost</u>
	(Lbs.)
Ayrshire	7,000
Guernsey	6,000
Holstein	8,000
Jersey	5,000
Brown Swiss	8,000
Milking Shorthorn	8,000

Only 1.4 percent of the herds were producing below the above levels for the respective breeds. A total of 4,238 herds or 20 percent reported income over feed cost at less than \$200 per cow while 30 percent reported values at \$300 or more per cow. Overall milk yield levels and breeds, estimated income over feed cost increased approximately \$29 per cow for each 1,000 pounds increase in milk production. As the milk yield of herds doubled or increased by a 2.0, income over feed cost increased by a factor of 2.3.

It is important to realize that the applicability of these DHIA herd statistics to individual herds will have the greatest meaning where local feed and milk markets are reasonably consistent with U. S. averages. Certainly, herds of the same breed and having similar levels of milk yield may differ considerably in production efficiency if a wide range exists in milk price, feeding systems and costs, and labor and other costs.

6,840 Sires Summarized in July 1963

During the six months prior to July 1963, a total of 597,597 production records were received and processed. Of this number 95.1 percent survived editing procedures and the remaining 568,227 were added to master files not totaling 7,686,950 records made by 3,709,797 cows. Individual sire records were produced for 6,840 sires, 80 percent of which were non-AI sires. A total of 16,718 sire records were sent to the cooperating States. Fifty-two percent of the sires summarized were identified by name.

Forty-eight percent of the AI sires summarized maintained or increased milk yield and 54 percent maintained or increased fat yield. The corresponding values for non-AI sires were 45 and 47 percent, respectively. These results continue to indicate that, in general, sires are selected more on the basis of percentage of fat or fat yield than for

milk yield. Overall breeds, the progeny of summarized AI and non-AI bulls were slightly inferior to their herdmates in the amount of 68 and 118 pounds of milk, respectively. However, such averages or differences are not entirely conclusive in appraising the effectiveness of current and recently used methods of sire selection or AI versus non-AI performance since (1) they are derived on a sire basis and hence do not reflect the more extensive use of genetically superior bulls, (2) herdmates include both AI and non-AI progeny as well as progeny of currently summarized bulls, and (3) herdmates are generally more highly selected than the bull's progeny. These results clearly indicate, however, that slightly less than one-half of the bulls summarized maintained or increased milk yield. The results of the July 1963 Sire Summaries are shown in Tables 9, 10, and 11.

TABLE 1--SUMMARY OF DHIA, AND NON-DHIA COWS, BY YEAR, UNITED STATES

Year	Cows No.	Standard DHIA					Number (Thousands)	All Cows		Non-DHIA Cow-year Average Milk Lbs.	Superiority of DHIA Cow-year Av. Milk Lbs.
		Percent of all Cows	Cows Per Herd	Milk Lbs.	Fat Lbs.	Fat %		Cow-year Average Milk Lbs.	All Cows Lbs.		
1906	239		7.7	5,300	215	4.06	17,592				
1920	203,472	1.0	17.0	5,175	247	4.00	20,704				
1930	507,549	2.3	18.2	7,642	303	3.96	22,218	4,508	4,435		3,207
1940	676,141	2.9	24.2	8,133	331	4.07	23,671	4,622	4,519		3,614
1950	1,088,872	5.0	27.2	9,172	370	4.03	21,944	5,314	5,113		4,059
1960	1,746,752	10.0	42.3	2/10,561	2/409	2/3.87	17,543	7,000	6,606		3,955
1961	1,867,469	10.8	43.9	10,796	418	3.87	17,367	7,223	6,793		4,003
1962	1,958,355	11.5	46.6	11,032	426	3.86	17,086	7,370	6,896		4,136
1963	2,006,534	11.9	47.8	11,286	434	3.85	1/16,886				

1/ Estimated.

2/ Averaged from 1959 and 1961 since date for collecting data for summary changed in 1961.

TABLE 2--SUMMARY OF THE 1962-63 DHIA COW-YEAR AVERAGES, BY STATES ^{1/}

State Code	Name	Herd Records Number	Cow-years Number	Cow-year Milk Pounds	Average Test %	Production Fat Pounds
11	Maine-----:	528	20,032	11,209	4.0	449
12	New Hampshire-----:	312	12,518	10,937	4.1	447
13	Vermont-----:	931	41,179	10,454	4.0	423
14	Massachusetts-----:	501	21,450	11,568	4.0	461
15	Rhode Island-----:	33	1,578	11,635	3.9	448
16	Connecticut-----:	451	21,640	11,882	3.9	469
21	New York-----:	2,963	131,466	12,260	3.7	453
22	New Jersey-----:	511	26,730	11,459	3.8	440
23	Pennsylvania-----:	4,384	151,185	11,203	3.9	438
31	Ohio-----:	1,922	66,932	11,497	3.8	439
32	Indiana-----:	978	33,829	11,189	3.9	440
33	Illinois-----:	1,504	54,126	11,136	3.9	431
34	Michigan-----:	1,859	66,799	11,630	3.8	438
35	Wisconsin-----:	2,758	105,781	11,341	3.8	431
41	Minnesota-----:	3,227	97,937	11,117	3.7	416
42	Iowa-----:	1,499	47,602	10,709	3.8	408
43	Missouri-----:	494	20,256	10,324	3.9	403
45	North Dakota-----:	169	5,450	10,647	3.7	396
46	South Dakota-----:	168	5,250	10,212	3.7	373
47	Nebraska-----:	263	10,947	10,617	3.8	405
48	Kansas-----:	649	26,248	10,870	3.8	411
50	Delaware-----:	107	4,312	10,968	3.9	423
51	Maryland-----:	702	35,626	10,730	3.9	420
52	Virginia-----:	1,086	59,578	10,847	3.9	419
54	West Virginia-----:	222	8,744	9,674	3.9	373
55	North Carolina----:	635	31,756	10,410	3.8	398
56	South Carolina----:	205	15,781	9,292	4.0	369
57	Georgia-----:	267	18,105	9,525	3.9	373
58	Florida-----:	95	15,775	8,513	4.2	355
61	Kentucky-----:	344	13,336	10,146	3.8	390
63	Tennessee-----:	439	21,397	8,984	4.1	368
64	Alabama-----:	238	18,143	8,329	4.0	330
65	Mississippi-----:	130	7,782	7,526	4.2	314
71	Arkansas-----:	65	2,976	9,017	3.7	338
72	Louisiana-----:	42	2,799	8,052	4.0	324
73	Oklahoma-----:	125	6,462	10,275	3.7	385
74	Texas-----:	297	21,095	9,871	3.8	374
81	Montana-----:	74	3,271	11,161	3.7	418
82	Idaho-----:	471	17,209	10,775	4.0	426
83	Wyoming-----:	27	902	10,906	3.6	394
84	Colorado-----:	202	11,681	11,256	3.8	426
85	New Mexico-----:	34	3,892	10,934	3.8	418
86	Arizona-----:	151	18,529	12,141	3.7	446
87	Utah-----:	374	15,269	12,328	3.7	457
88	Nevada-----:	51	3,700	11,725	3.7	434
91	Washington-----:	722	37,905	11,723	4.0	465
92	Oregon-----:	280	15,247	10,303	4.2	437
93	California-----:	1,881	292,949	12,443	3.8	478
94	Puerto Rico-----:	6	1,593	7,184	3.4	246
95	Hawaii-----:	1	21	6,377	3.8	242
Total or average-----:		35,378	1,674,803	11,286	3.8	434

^{1/} Includes all production data reported.

TABLE 3--SUMMARY OF THE 1962-63 DAIRY-HERD-IMPROVEMENT ASSOCIATION RECORDS, BY STATES 1/, 2/

Code	State Name	No.	Herds	Body	Cow-years	Milk Lbs. %	Test Lbs. %	Fat Lbs. %	Days in Milk	Concen- trates Fed	Value of Product	Cost of Concent- rates	Feed Cost	Income Over F. Cost	Feed Per Cwt	Cost Mill.
		No.	Off.							Off.	\$	\$	\$	\$	\$	
11	Maine-----	522	11	19,908	11,212 12,004 40,511	4.0 4.1 4.0	450 446 423	85 84 84	42	576 579 505	155 146 130	262 275 239	314 304 239	2.33 2.51 2.29		
12	New Hampshire-----	299	11	10,933	4.1	4.0	423	84	35	505	130	239	304	2.26		
13	Vermont-----	916	11	10,464	4.0	4.0	423	84	35	505	130	239	304	2.26		
14	Massachusetts-----	478	11	20,301	11,636	4.0	461	84	46	668	170	316	352	2.72		
15	Rhode Island-----	31	13	1,492	11,606	3.9	447	84	45	750	166	371	379	3.20		
16	Connecticut-----	405	12	19,465	11,961	3.9	472	84	48	652	179	319	333	2.67		
21	New York-----	2,960	12	131,332	12,259	3.7	453	84	41	541	138	258	283	2.11		
22	New Jersey-----	403	12	21,095	11,444	3.8	440	84	39	606	132	284	322	2.48		
31	Ohio-----	1,083	12	35,800	11,322	3.9	438	85	41	475	101	220	255	1.94		
32	Indiana-----	944	12	32,061	11,077	4.0	438	85	38	460	90	200	260	1.80		
33	Illinois-----	1,479	12	53,299	11,145	3.9	432	85	38	436	84	174	262	1.56		
34	Michigan-----	1,842	12	65,905	11,639	3.8	438	86	40	484	84	183	301	1.57		
41	Minnesota-----	3,063	12	92,979	11,157	3.7	417	85	38	398	72	150	248	1.35		
42	Iowa-----	1,467	12	46,341	10,739	3.8	409	84	41	386	89	159	227	1.48		
43	Missouri-----	455	12	18,780	10,347	3.9	405	85	37	427	95	188	239	1.82		
45	North Dakota-----	163	13	4,920	10,583	3.8	397	83	35	386	68	137	249	1.29		
46	South Dakota-----	155	12	4,891	10,210	3.6	372	83	38	405	77	163	242	1.59		
47	Nebraska-----	256	12	10,496	10,662	3.8	407	85	39	420	98	183	237	1.72		
48	Kansas-----	620	12	25,115	10,951	3.8	413	85	41	441	104	191	250	1.74		
50	Delaware-----	105	11	4,236	10,990	3.9	424	84	38	537	116	265	272	2.41		
51	Maryland-----	529	11	25,948	10,843	3.9	428	84	40	524	123	266	258	2.45		
52	Virginia-----	1,068	12	58,521	10,855	3.9	419	84	39	565	127	259	306	2.38		
54	West Virginia-----	220	12	8,682	9,681	3.9	373	83	33	461	105	222	239	2.29		
55	North Carolina-----	627	11	31,355	10,385	3.8	397	84	40	582	129	269	313	2.59		
56	South Carolina-----	203	11	15,701	9,270	4.0	368	83	37	530	115	218	312	2.35		
57	Georgia-----	248	11	16,298	9,603	3.9	377	84	38	578	120	220	358	2.29		
58	Florida-----	76	10	12,437	8,641	4.2	361	84	47	586	141	227	359	2.62		
61	Kentucky-----	311	11	21,723	10,035	3.8	386	83	34	423	95	187	236	1.86		
63	Tennessee-----	433	11	21,148	8,990	4.1	368	84	33	445	95	193	252	2.15		
64	Alabama-----	205	10	15,757	8,378	4.0	335	82	40	466	121	201	265	2.39		
65	Mississippi-----	122	10	7,271	7,542	4.2	314	81	33	384	99	163	221	2.15		
71	Arkansas-----	65	11	2,976	9,017	3.7	338	83	36	386	103	186	200	2.06		
72	Louisiana-----	35	10	2,447	8,153	4.0	328	82	35	475	107	170	305	2.08		
73	Oklahoma-----	115	11	5,986	10,310	3.8	387	83	38	465	99	195	270	1.89		
74	Texas-----	280	11	19,866	9,898	3.8	375	82	42	481	121	223	258	2.26		
81	Montana-----	43	13	1,731	11,052	3.7	405	86	31	460	77	200	260	1.81		
82	Idaho-----	400	11	14,128	10,798	4.0	429	85	26	425	71	193	232	1.78		
83	Wyoming-----	1	13	32	10,968	3.5	385	86	29	442	74	198	244	1.81		
92	Oregon-----	21	11	980	9,939	4.3	429	85	29	491	90	288	328	2.05		
94	Puerto Rico-----	5	12	1,232	7,581	3.4	258	76	36	582	127	208	374	2.75		
U. S. Average-----		22,653	12	935,149	10,938	3.8	420	84	39	495	111	218	277	1.99		
Including Incomplete--:		35,378		1,674,803	11,286	3.8	434									

1/ Cow-year basis, based on complete individual herd reports only.

2/ Complete feed and cost data not tabulated for the following States: Pennsylvania, Wisconsin, Colorado, New Mexico, Arizona, Utah, Nevada, Washington, California, Hawaii.

TABLE 4--SUMMARY OF 1962-63 DHLA YEARLY HERD AVERAGES, STRATIFIED BY POUNDS OF BUTTERFAT $\frac{1}{2}$

Grouping 50 Pound	Herd No.	Herd Cwt.	Body No.	Cow-years No.	Milk Lbs.	Test %	Fat Lbs.	Days in Milk	Concen- trates Fed	Value of Product	Cost of Concen- trates	Feed Cost	Income Over F. Cost	Feed Cost Per Cwt Milk
125-174	11	10	52.3	3,944	4.0	159	61	18	186	47	110	76	2.79	
175-224	60	10	58.2	5,172	4.0	205	73	22	263	65	133	130	2.57	
225-274	386	11	47.0	6,645	3.9	257	77	28	301	76	154	147	2.33	
275-324	1,398	11	46.8	7,847	3.9	304	81	31	352	83	169	183	2.17	
325-374	3,577	11	42.6	9,085	3.9	353	83	34	397	90	183	214	2.03	
375-424	5,919	12	41.0	10,385	3.9	401	84	37	448	99	198	250	1.92	
425-474	6,011	12	40.4	11,692	3.8	448	85	41	504	111	217	287	1.87	
475-524	3,564	12	39.9	12,985	3.8	496	86	45	566	126	240	326	1.86	
525-574	1,400	12	39.9	14,182	3.8	544	86	49	631	144	266	365	1.89	
575-624	280	12	39.2	15,281	3.9	592	87	52	699	160	290	409	1.90	
625-674	42	13	40.2	16,437	3.9	641	88	56	756	173	299	457	1.82	
675-724	3	12	30.3	17,006	4.0	687	89	64	936	230	386	550	2.26	
725-774	2	14	23.4	18,267	4.0	731	91	66	827	184	285	542	1.54	
U.S. Av. $\frac{1}{2}$	22,653	12	41.3	11,006	3.9	424	84	39	479	107	210	269	1.94	

1/ All groupings and the U. S. average are on a herd basis.

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TABLE 5--SUMMARY OF 1962-63 DHLA YEARLY HERD AVERAGES, STRATIFIED BY CONCENTRATES FED $\frac{1}{2}$

Grouping 100 Pound	Herd No.	Herd Cwt.	Body No.	Cow-years No.	Milk Lbs.	Test %	Fat Lbs.	Days in Milk	Concen- trates Fed	Value of Product	Cost of Concen- trates	Feed Cost	Income Over F. Cost	Feed Cost Per Cwt Milk
05-14	81	11	33.1	7,925	4.0	315	80	12	312	34	131	181	1.74	
15-24	1,288	11	41.0	8,532	4.0	345	82	21	373	61	155	218	1.87	
25-34	6,534	11	41.6	9,840	4.0	391	84	30	433	82	180	253	1.89	
35-44	8,405	12	41.2	11,205	3.8	430	85	39	485	107	211	274	1.92	
45-54	4,584	12	40.9	12,273	3.7	459	85	49	530	134	241	289	1.99	
55-64	1,400	12	41.6	12,952	3.7	481	85	58	569	163	270	299	2.11	
65-74	287	12	43.1	13,279	3.7	493	85	68	603	191	297	306	2.26	
75-84	65	12	52.0	13,822	3.8	520	86	78	661	225	332	329	2.43	
85-Up	9	12	54.3	13,427	3.7	495	87	88	648	264	357	291	2.63	
U.S. Av. $\frac{1}{2}$	22,653	12	41.3	11,006	3.9	424	84	39	479	107	210	269	1.94	

1/ All groupings and the U. S. average are on a herd basis.

TABLE 6--SUMMARY OF 1962-63 DHIA YEARLY HERD AVERAGES, STRATIFIED BY SIZE OF HERD ^{1/}

Grouping 10 Cow	Herds <u>No.</u>	Body <u>Cwt.</u>	Cow-years <u>No.</u>	Milk <u>Lbs.</u>	Test <u>%</u>	Fat <u>Lbs.</u>	Days in Milk <u>%</u>	Concentrates Fed <u>Cwt.</u>
Under 10	174	11	6.9	10,368	4.1	428	84	40
10-19	2,171	12	16.3	10,747	3.9	422	85	39
20-29	5,875	12	25.4	11,070	3.8	426	85	39
30-39	5,564	12	34.7	11,111	3.8	426	84	39
40-49	3,606	12	44.5	11,110	3.8	426	84	39
50-59	2,047	12	54.5	11,080	3.8	424	84	39
60-69	1,148	12	64.5	11,004	3.8	421	84	40
70-79	699	11	74.8	10,840	3.9	418	84	39
80-89	415	12	84.6	10,859	3.8	414	84	39
90-99	273	12	94.6	10,615	3.8	406	84	39
100-Up	681	11	142.8	10,246	3.9	397	83	39
U.S.Av.	22,653	12	41.3	11,006	3.9	424	84	39

1/ All values are herd averages, except fat percent which is calculated on each average production value.

TABLE 7--SUMMARY OF 1962-63 DHIA YEARLY HERD AVERAGES, STRATIFIED BY MILK YIELD AND GROUPED BY BREED
MILKING SHORTHORN

Grouping 1000 Pound	Herds <u>No.</u>	Cow-years <u>No.</u>	Milk <u>Lbs</u>	Concen- trates <u>Cwt.</u>	Value of Product <u>\$</u>	Cost of Concentrates <u>\$</u>	Feed Cost <u>\$</u>	Income Over Feed Cost <u>\$</u>
Under 5,500	2	27.1	4,941	15	209	42	134	76
55-64	11	20.0	6,155	26	189	54	118	71
65-74	28	25.4	7,022	30	258	68	137	121
75-84	42	23.2	8,031	29	309	72	155	154
85-94	31	23.5	8,892	31	328	75	156	172
95-104	9	21.9	9,763	28	393	68	154	239
105-114	5	29.6	10,954	38	435	94	186	249
Over 11,400	2	32.7	12,041	38	459	93	190	269
Average	130	23.8	8,107	30	304	71	150	154

MIXED BREED

Under 5,500	20	60.5	4,839	26	266	72	128	138
55-64	57	62.0	6,099	28	310	79	152	158
65-74	170	61.5	7,053	30	369	87	163	206
75-84	263	52.7	8,054	32	407	94	182	225
85-94	370	50.1	8,998	35	443	101	196	247
95-104	324	58.6	9,984	37	491	109	212	279
105-114	303	44.4	10,966	40	513	115	222	291
115-124	164	47.3	11,916	43	556	127	238	318
125-134	80	48.7	12,903	45	597	132	248	349
135-144	27	38.3	13,935	49	653	158	280	373
Over 14,400	11	43.8	14,978	51	630	142	265	365
Average	1,789	52.1	9,601	36	467	106	204	263

TABLE 8--SUMMARY OF 1962-63 DHIA YEARLY HERD AVERAGES, STRATIFIED BY MILK YIELD AND GROUPED BY BREED

AYRSHIRE

Grouping 1000 Pound	Herds	Cow-years	Milk Lbs.	Concen- trates Cwt.	Value of Product \$	Cost of Concentrates \$	Feed Cost \$	Income Over Feed Cost \$
No.	No.							
Under 7,500	16	39.2	6,865	29	304	79	149	155
75-84	65	31.7	8,097	30	356	88	171	185
85-94	125	40.3	9,013	33	419	100	194	225
95-104	126	36.8	9,960	38	474	122	224	250
105-114	91	38.7	10,957	40	509	122	232	277
115-124	23	44.3	11,957	43	577	141	258	319
Over 12,400	17	38.1	13,425	49	627	160	276	351
Average	463	37.9	9,758	36	454	112	211	243

GUERNSEY

Under 5,500	19	52.6	5,058	22	277	67	143	134
55-64	87	41.4	6,105	27	322	73	152	170
65-74	281	42.8	7,096	29	365	79	165	200
75-84	532	38.6	8,031	32	403	86	174	229
85-94	591	39.9	8,975	35	464	99	195	269
95-104	340	37.1	9,942	39	503	112	208	295
105-114	128	41.2	10,916	42	565	127	234	331
115-124	35	35.8	11,959	45	607	138	241	366
Over 12,400	13	39.5	13,248	46	652	160	287	365
Average	2,026	39.7	8,670	34	443	96	189	254

HOLSTEIN

Under 6,500	43	52.9	5,833	23	280	67	148	132
65-74	160	45.3	7,083	27	310	75	159	151
75-84	417	45.2	8,082	30	349	81	173	176
85-94	1,036	43.5	9,060	33	383	88	182	201
95-104	1,941	41.5	10,042	36	419	93	192	227
105-114	3,059	40.6	11,011	39	455	100	203	252
115-124	3,569	40.5	11,997	41	497	109	215	282
125-134	2,967	40.5	12,978	44	542	120	233	309
135-144	1,796	40.1	13,932	47	587	132	248	339
145-154	804	39.9	14,907	50	637	147	271	366
155-164	244	38.6	15,865	53	685	159	284	401
Over 16,400	69	35.2	17,027	56	753	173	305	448
Average	16,105	40.9	11,840	41	495	110	217	278

JERSEY

Under 5,500	49	38.9	4,892	23	249	63	121	128
55-64	139	44.1	6,093	27	320	76	148	172
65-74	379	42.7	7,025	30	374	85	161	213
75-84	502	40.8	7,985	34	418	96	175	243
85-94	315	41.8	8,926	36	483	112	199	284
95-104	105	43.8	9,950	41	550	137	234	316
105-114	31	40.7	10,884	42	557	138	239	318
Over 11,400	17	39.0	12,091	46	588	153	261	327
Average	1,537	41.9	7,910	33	420	98	179	241

BROWN SWISS

Under 7,500	21	27.2	6,782	29	275	70	147	128
75-84	54	26.1	8,064	32	315	73	151	164
85-94	101	29.6	8,982	34	369	80	168	201
95-104	159	29.6	9,984	37	409	91	184	225
105-114	128	30.1	10,981	42	462	104	206	256
115-124	83	29.3	11,977	44	509	115	221	288
125-134	33	33.3	12,918	46	558	125	236	322
135-144	9	28.7	13,827	52	638	157	302	336
Average	588	29.4	10,243	39	426	96	191	235

TABLE 9--PERFORMANCE OF AI SIRES SUMMARIZED IN JULY 1963, AS MEASURED BY THE PRODUCTION OF PROGENY AND THEIR HERDMATES

Breed	Sires			Daughters with Herdmates			Daughters			Herdmates		
	Milk Yield Maintained or increased		Fat Yield Maintained or increased	%	No.		Milk Lbs.	Test %	Fat Lbs.	Milk Lbs.	Test %	Fat Lbs.
	Total No.	%					Lbs.	%	Lbs.	Lbs.	%	Lbs.
Ayrshire	47	51	60	2,561	10,072	4.1	411	9,914	4.1	402		
Guernsey	255	45	53	19,706	8,644	4.8	415	8,707	4.8	416		
Holstein	688	48	53	143,680	12,835	3.7	473	12,960	3.7	475		
Jersey	196	52	56	13,441	8,311	5.2	430	8,300	5.2	430		
Brown Swiss	80	49	52	4,478	11,048	4.1	453	10,951	4.1	447		
Milking Shorthorn	18	50	52	120	8,719	3.8	329	8,849	3.8	335		
Red Poll	-	-	-	-	-	-	-	-	-	-		
Other	-	-	-	-	-	-	-	-	-	-		
Overall	1,284	48	54	183,986	11,042	4.1	449	11,110	4.0	450		

TABLE 10--PERFORMANCE OF NON-AI SIRES SUMMARIZED IN JULY 1963, AS MEASURED BY THE PRODUCTION OF PROGENY AND THEIR HERDMATES

Breed	Sires			Daughters with Herdmates			Daughters			Herdmates		
	Milk Yield Maintained or increased		Fat Yield Maintained or increased	%	No.		Milk Lbs.	Test %	Fat Lbs.	Milk Lbs.	Test %	Fat Lbs.
	Total No.	%					Lbs.	%	Lbs.	Lbs.	%	Lbs.
Ayrshire	190	44	44	2,003	9,610	4.1	390	9,741	4.0	392		
Guernsey	1,065	44	49	12,847	8,803	4.8	426	8,897	4.8	427		
Holstein	2,968	44	47	34,901	12,769	3.7	467	12,910	3.6	471		
Jersey	741	45	46	8,862	8,187	5.2	429	8,309	5.2	433		
Brown Swiss	200	52	59	2,161	10,999	4.1	451	10,906	4.1	445		
Milking Shorthorn	60	45	48	5,75	8,581	3.8	330	8,632	3.8	328		
Red Poll	1	-	-	5	7,872	4.0	317	7,415	4.1	303		
Other	2	-	-	10	11,898	4.2	505	10,344	4.6	475		
Overall	5,227	45	47	61,364	11,079	4.0	448	11,197	4.0	451		

TABLE 11--NUMBER OF SIRE RECORDS SUMMARIZED IN JULY 1963, BY STATE, BY BREED

State	Ayrshire	Guernsey	Holstein	Jersey	Br. Swiss	Shorthorn	Red Dane	Other	Red Poll	Total
	Number	Number	Number	Number	Number	Number	Number	Number	Number	Number
Maine-----	15	50	140	44	11	4				264
New Hampshire-----	37	40	130	44	5	4				260
Vermont-----	35	61	256	116	23	3				294
Massachusetts-----	34	87	245	70	24	2				462
Rhode Island-----	7	15	67	9	2					100
Connecticut-----	27	124	243	41	27					462
New York-----	77	175	888	163	60	3				1,366
New Jersey-----	3	104	200	35	24					366
Pennsylvania-----	55	317	703	102	45	7				1,229
Ohio-----	19	133	318	162	51	3				686
Indiana-----	11	140	301	88	49	10				599
Illinois-----	26	149	362	59	67	12				675
Michigan-----	6	97	365	65	35	6				574
Wisconsin-----	16	192	772	81	82	17			1	1,161
Minnesota-----	26	112	427	62	50	11				688
Iowa-----	30	92	401	83	74	27				707
Missouri-----	1	65	109	50	9	5				239
North Dakota-----	1	16	102	2	21	3				145
South Dakota-----	7	9	86	9	23					134
Nebraska-----	3	42	127	11	21	6				210
Kansas-----	22	54	207	43	24	11				361
Delaware-----	7	26	78	7	10					128
Maryland-----	26	117	303	40	41	2			1	530
Virginia-----	15	119	253	47	23	3				460
West Virginia-----	11	25	101	21	1					159
North Carolina-----	11	90	197	59	20					377
South Carolina-----	3	107	128	41	21					300
Georgia-----	14	47	103	37	18					219
Florida-----	1	96	50	60	8					215
Kentucky-----	1	35	113	50	18					217
Tennessee-----	2	79	93	87	12	6				279
Alabama-----	9	43	80	54	10					196
Mississippi-----	5	55	30	60	6					156
Arkansas-----	4	29	51	20	2	4				110
Louisiana-----		48	29	18	1				1	97
Oklahoma-----	8	28	102	40	13	7				198
Texas-----	7	47	147	97	27	1				326
Montana-----		9	34	6	8					57
Idaho-----	1	37	84	43	9	3				177
Wyoming-----		3	16							19
Colorado-----	6	36	89	28	25	3				187
New Mexico-----		40	23	20						83
Arizona-----	1	43	78	11	6					139
Utah-----	2	30	127	24	3					186
Nevada-----		3	6	22						31
Washington-----	9	65	137	65	4	2				282
Oregon-----	9	54	82	96	11	2				254
California-----	1	58	65	20	2					146
Puerto Rico-----			4							4
Hawaii-----			3							3
Alaska-----			1							1
Total-----	248	1,397	3,822	991	297	82		2	1	16,718 1/ 6,840 2/

1/ Represents the number of individual sire records sent to States.

2/ Represents the number of sires summarized.